

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): An encapsulation composition, comprising:

(A) an encapsulate, encapsulated in:

(B) a glassy matrix,

wherein said glassy matrix is selected from the group consisting of:

(a) a composition, comprising:

(a₁) 5 to 95 % by weight, based on the total weight of said composition (a), of a first n-octenylsuccinic anhydride-modified starch; and

(a₂) 5 to 90 % by weight, based on the total weight of said composition (a), of a second n-octenylsuccinic anhydride-modified starch; and

(a₃) 0 to 45 % by weight, based on the total weight of said composition (a), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

with the proviso that said first n-octenylsuccinic anhydride-modified starch is a dextrinized n-octenylsuccinic anhydride-modified starch and said second n-octenylsuccinic anhydride-modified starch is a hydrolyzed n-octenylsuccinic anhydride-modified starch; and

(b) a composition, comprising:

(b₁) 5 to 95 % by weight, based on the total weight of said composition (b), of a first food polymer;

(b₂) 5 to 90 % by weight, based on the total weight of said composition (b), of a second food polymer; and

(b₃) 0 to 45 % by weight, based on the total weight of said composition (b), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

wherein said first food polymer is an n-octenylsuccinic anhydride-modified starch,

and

wherein said second food polymer is selected from the group consisting of exudate gums, bacterial gums, extract gums, seed gums, pectins, dextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan;

(e) a composition, comprising:

(e₁) ~~5 to 95 % by weight, based on the total weight of said composition (e), of a first food polymer;~~

(e₂) ~~5 to 90 % by weight, based on the total weight of said composition (e), of a second food polymer; and~~

(e₃) ~~0 to 45 % by weight, based on the total weight of said composition (e), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,~~

~~wherein said first food polymer and said second food polymer are selected from the group consisting of bacterial gums, extract gums, seed gums, pectins, dextrins, maltodextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan;~~

~~with the proviso that said first food polymer and said second food polymer are different from each other; and~~

(d) a composition, comprising:

~~(d₁) 5 to 95 % by weight, based on the total weight of said composition (d), of a first food polymer;~~

~~(d₂) 5 to 70 % by weight, based on the total weight of said composition (d), of a second food polymer;~~

~~(d₃) 5 to 70 % by weight, based on the total weight of said composition (d), of a third food polymer; and~~

~~(d₄) 0 to 45 % by weight, based on the total weight of said composition (d), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof;~~

~~wherein said first food polymer and said second food polymer are selected from the group consisting of bacterial gums, extract gums, seed gums, pectins, dextrans, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan, and~~

~~wherein said third food polymer is selected from the group consisting of n-octenylsuccinic anhydride modified starches, exudate gums, bacterial gums, extract gums, seed gums, pectins, dextrans, maltodextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan,~~

~~with the proviso that said first food polymer, said second food polymer, and said third food polymer are all different from each other.~~

Claim 2 (original): The composition of Claim 1, which has at least one glass transition temperature >30°C.

Claim 3 (original): The composition of Claim 1, which has at least one glass transition temperature > 40°C.

Claim 4 (original): The composition of Claim 1, which has two glass transition temperatures.

Claim 5 (previously presented): The composition of Claim 1, wherein said matrix (B) is (a) a composition comprising:

(a₁) 5 to 95 % by weight, based on the total weight of said composition (a), of a first n-octenylsuccinic anhydride-modified starch; and

(a₂) 5 to 90 % by weight, based on the total weight of said composition (a), of a second n-octenylsuccinic anhydride-modified starch; and

(a₃) 0 to 45 % by weight, based on the total weight of said composition (a), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

with the proviso that said first n-octenylsuccinic anhydride-modified starch is a dextrinized n-octenylsuccinic anhydride-modified starch and said second n-octenylsuccinic anhydride-modified starch is a hydrolyzed n-octenylsuccinic anhydride-modified starch.

Claim 6 (original): The composition of Claim 5, wherein said matrix (B) is a composition comprising 1 to 45 % by weight, based on the total weight of said composition (a), of said component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof.

Claim 7 (original): The composition of Claim 1, wherein said matrix (B) is (b) a composition comprising:

(b₁) 5 to 95 % by weight, based on the total weight of said composition (b), of a first food polymer;

(b₂) 5 to 90 % by weight, based on the total weight of said composition (b), of a second food polymer; and

(b₃) 0 to 45 % by weight, based on the total weight of said composition (b), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

wherein said first food polymer is an n-octenylsuccinic anhydride-modified starch, and

wherein said second food polymer is selected from the group consisting of exudate gums, bacterial gums, extract gums, seed gums, pectins, dextrans, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan.

Claim 8 (original): The composition of Claim 7, wherein said matrix (B) is a composition comprising 1 to 45 % by weight, based on the total weight of said composition (b), of said component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof.

Claims 9- 12 (canceled).

Claim 13 (original): The composition of Claim 1, wherein said encapsulate is selected from the group consisting of medications, pesticides, vitamins, preservatives, and flavoring agents.

Claim 14 (original): The composition of Claim 13, wherein said encapsulate is a flavoring agent.

Claim 15 (original): The composition of Claim 14, wherein said flavoring agent is selected from the group consisting of natural extracts, oleoresins, essential oils, protein hydrolyzates, aqueous reaction flavors, and compounded flavors.

Claim 16 (currently amended): An encapsulate composition, prepared by a process comprising:

(i) mixing a matrix composition (B) with a liquid plasticizer and an encapsulate (A) in an extruder, to obtain a melted mixture comprising encapsulate (A) and matrix (B); and

(ii) extruding said melted mixture, to obtain said composition,

wherein said encapsulate (A) is encapsulated in a glassy matrix of said matrix composition (B), and

wherein said matrix composition (B) is selected from the group consisting of:

(a) a composition, comprising:

(a₁) 5 to 95 % by weight, based on the total weight of said composition (a), of a first n-octenylsuccinic anhydride-modified starch; and

(a₂) 5 to 90 % by weight, based on the total weight of said composition (a), of a second n-octenylsuccinic anhydride-modified starch; and

(a₃) 0 to 45 % by weight, based on the total weight of said composition (a), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,
with the proviso that said first n-octenylsuccinic anhydride-modified starch is a dextrinized n-octenylsuccinic anhydride-modified starch and said second n-octenylsuccinic anhydride-modified starch is a hydrolyzed n-octenylsuccinic anhydride-modified starch; and

(b) a composition, comprising:

(b₁) 5 to 95 % by weight, based on the total weight of said composition (b), of a first food polymer;

(b₂) 5 to 90 % by weight, based on the total weight of said composition (b), of a second food polymer; and

(b₃) 0 to 45 % by weight, based on the total weight of said composition (b), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

wherein said first food polymer is an n-octenylsuccinic anhydride-modified starch, and

wherein said second food polymer is selected from the group consisting of exudate gums, bacterial gums, extract gums, seed gums, pectins, dextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan;

(c) a composition, comprising:

(c₁) ~~5 to 95 % by weight, based on the total weight of said composition (c), of a first food polymer;~~

(c₂) ~~5 to 90 % by weight, based on the total weight of said composition (c), of a second food polymer; and~~

~~(e₃) 0 to 45 % by weight, based on the total weight of said composition (e), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,~~
~~wherein said first food polymer and said second food polymer are selected from the group consisting of bacterial gums, extract gums, seed gums, pectins, dextrins, maltodextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan,~~

~~with the proviso that said first food polymer and said second food polymer are different from each other; and~~

~~(d) a composition, comprising:~~

~~(d₁) 5 to 95 % by weight, based on the total weight of said composition (d), of a first food polymer;~~

~~(d₂) 5 to 70 % by weight, based on the total weight of said composition (d), of a second food polymer;~~

~~(d₃) 5 to 70 % by weight, based on the total weight of said composition (d), of a third food polymer; and~~

~~(d₄) 0 to 45 % by weight, based on the total weight of said composition (d), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,~~

~~wherein said first food polymer and said second food polymer are selected from the group consisting of bacterial gums, extract gums, seed gums, pectins, dextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan, and~~

~~wherein said third food polymer is selected from the group consisting of n-octenylsuccinic anhydride-modified starches, bacterial gums, extract gums, seed gums, pectins, dextrins, maltodextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan, with the proviso that said first food polymer, said second food polymer, and said third food polymer are all different from each other.~~

Claim 17 (original): The composition of Claim 16, which has at least one glass transition temperature >30°C.

Claim 18 (original): The composition of Claim 16, which has at least one glass transition temperature >40°C.

Claim 19 (original): The composition of Claim 16, which has two glass transition temperatures.

Claim 20 (original): The composition of Claim 16, wherein said encapsulate is selected from the group consisting of medications, pesticides, vitamins, preservatives, and flavoring agents.

Claim 21 (original): The composition of Claim 20, wherein said encapsulate is a flavoring agent.

Claim 22 (original): The composition of Claim 21, wherein said flavoring agent is selected from the group consisting of natural extracts, oleoresins, essential oils, protein hydrolysates, aqueous reaction flavors, and compounded flavors.

Claim 23 (currently amended): A process for preparing an encapsulation composition, said process comprising:

(i) mixing a matrix composition (B) with a liquid plasticizer and an encapsulate (A) in an extruder, to obtain a melted mixture comprising encapsulate (A) and matrix (B); and

(ii) extruding said melted mixture, to obtain said composition, wherein said encapsulate (A) is encapsulated in a glassy matrix of said matrix composition (B), and

wherein said matrix composition (B) is selected from the group consisting of:

(a) a composition, comprising:

(a₁) 5 to 95 % by weight, based on the total weight of said composition (a), of a first n-octenylsuccinic anhydride-modified starch; and

(a₂) 5 to 90 % by weight, based on the total weight of said composition (a), of a second n-octenylsuccinic anhydride-modified starch; and

(a₃) 0 to 45 % by weight, based on the total weight of said composition (a), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

with the proviso that said first n-octenylsuccinic anhydride-modified starch is a dextrinized n-octenylsuccinic anhydride-modified starch and said second n-octenylsuccinic anhydride-modified starch is a hydrolyzed n-octenylsuccinic anhydride-modified starch; and

(b) a composition, comprising:

(b₁) 5 to 95 % by weight, based on the total weight of said composition (b), of a first food polymer;

(b₂) 5 to 90 % by weight, based on the total weight of said composition (b), of a second food polymer; and

(b₃) 0 to 45 % by weight, based on the total weight of said composition (b), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

wherein said first food polymer is an n-octenylsuccinic anhydride-modified starch,

and

wherein said second food polymer is selected from the group consisting of exudate gums, bacterial gums, extract gums, seed gums, pectins, dextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan;

(e) a composition, comprising:

(e₁) ~~5 to 95 % by weight, based on the total weight of said composition (e), of a first food polymer;~~

(e₂) ~~5 to 90 % by weight, based on the total weight of said composition (e), of a second food polymer; and~~

(e₃) ~~0 to 45 % by weight, based on the total weight of said composition (e), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,~~

~~wherein said first food polymer and said second food polymer are selected from the group consisting of bacterial gums, extract gums, seed gums, pectins, dextrins, maltodextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified~~

~~celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan,~~

~~with the proviso that said first food polymer and said second food polymer are different from each other; and~~

~~(d) a composition, comprising:~~

~~(d₁) 5 to 95 % by weight, based on the total weight of said composition (d), of a first food polymer;~~

~~(d₂) 5 to 70 % by weight, based on the total weight of said composition (d), of a second food polymer;~~

~~(d₃) 5 to 70 % by weight, based on the total weight of said composition (d), of a third food polymer; and~~

~~(d₄) 0 to 45 % by weight, based on the total weight of said composition (d), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof;~~

~~wherein said first food polymer and said second food polymer are selected from the group consisting of bacterial gums, extract gums, seed gums, pectins, dextrans, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan, and~~

~~wherein said third food polymer is selected from the group consisting of n-octenylsuccinic anhydride modified starches, bacterial gums, extract gums, seed gums, pectins, dextrans, maltodextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan,~~

~~with the proviso that said first food polymer, said second food polymer, and said third food polymer are all different from each other.~~

Claim 24 (original): The process of Claim 23, wherein said encapsulate is selected from the group consisting of medications, pesticides, vitamins, preservatives, and flavoring agents.

Claim 25 (original): The process of Claim 24, wherein said encapsulate is a flavoring agent.

Claim 26 (original): The process of Claim 25, wherein said flavoring agent is selected from the group consisting of natural extracts, oleoresins, essential oils, protein hydrolyzates, aqueous reaction flavors, and compounded flavors.

Claim 27 (new): The composition of Claim 16, wherein said matrix (B) is (a) a composition comprising:

- (a₁) 5 to 95 % by weight, based on the total weight of said composition (a), of a first n-octenylsuccinic anhydride-modified starch; and
- (a₂) 5 to 90 % by weight, based on the total weight of said composition (a), of a second n-octenylsuccinic anhydride-modified starch; and
- (a₃) 0 to 45 % by weight, based on the total weight of said composition (a), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

with the proviso that said first n-octenylsuccinic anhydride-modified starch is a dextrinized n-octenylsuccinic anhydride-modified starch and said second n-octenylsuccinic anhydride-modified starch is a hydrolyzed n-octenylsuccinic anhydride-modified starch.

Claim 28 (new): The composition of Claim 27, wherein said matrix (B) is a composition comprising 1 to 45 % by weight, based on the total weight of said composition (a), of said component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof.

Claim 29 (new): The composition of Claim 16, wherein said matrix (B) is (b) a composition comprising:

(b₁) 5 to 95 % by weight, based on the total weight of said composition (b), of a first food polymer;

(b₂) 5 to 90 % by weight, based on the total weight of said composition (b), of a second food polymer; and

(b₃) 0 to 45 % by weight, based on the total weight of said composition (b), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

wherein said first food polymer is an n-octenylsuccinic anhydride-modified starch, and

wherein said second food polymer is selected from the group consisting of exudate gums, bacterial gums, extract gums, seed gums, pectins, dextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan.

Claim 30 (new): The composition of Claim 29, wherein said matrix (B) is a composition comprising 1 to 45 % by weight, based on the total weight of said composition (b), of said component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof.

Claim 31 (new): The process of Claim 23, wherein said matrix (B) is (a) a composition comprising:

(a₁) 5 to 95 % by weight, based on the total weight of said composition (a), of a first n-octenylsuccinic anhydride-modified starch; and

(a₂) 5 to 90 % by weight, based on the total weight of said composition (a), of a second n-octenylsuccinic anhydride-modified starch; and

(a₃) 0 to 45 % by weight, based on the total weight of said composition (a), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

with the proviso that said first n-octenylsuccinic anhydride-modified starch is a dextrinized n-octenylsuccinic anhydride-modified starch and said second n-octenylsuccinic anhydride-modified starch is a hydrolyzed n-octenylsuccinic anhydride-modified starch.

Claim 32 (new): The process of Claim 31, wherein said matrix (B) is a composition comprising 1 to 45 % by weight, based on the total weight of said composition (a), of said component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof.

Claim 33 (new): The process of Claim 23, wherein said matrix (B) is (b) a composition comprising:

(b₁) 5 to 95 % by weight, based on the total weight of said composition (b), of a first food polymer;

(b₂) 5 to 90 % by weight, based on the total weight of said composition (b), of a second food polymer; and

(b₃) 0 to 45 % by weight, based on the total weight of said composition (b), of a component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof,

wherein said first food polymer is an n-octenylsuccinic anhydride-modified starch, and

wherein said second food polymer is selected from the group consisting of exudate gums, bacterial gums, extract gums, seed gums, pectins, dextrins, pregelatinized starches, agar agar, polydextrose, hydrogenated starch hydrolyzates, modified celluloses, seaweed hydrocolloid extracts, proteins, fractionated proteins, hydrolyzed proteins, and chitosan.

Claim 34 (new): The process of Claim 33, wherein said matrix (B) is a composition comprising 1 to 45 % by weight, based on the total weight of said composition (b), of said component selected from the group consisting of sugars, polyols, corn syrup solids, and mixtures thereof.